

ABSTRACT

A control input (DUT) for controlling a heater (13) which heats an active element (10) of an exhaust gas sensor (8) includes at least one of another component depending on the difference between temperature data of the active element (10) and a target temperature, a component depending on the target temperature, and a component depending on the temperature data of the active element (10). The control input is determined by an optimum control algorithm. A component depending on the temperature of an exhaust gas and the component depending on the target temperature are determined based on a predictive control algorithm. The temperature of the active element (10) of the exhaust gas sensor (8) is thus controlled stably at a desired temperature.